

I. AMENDMENTS TO THE CLAIMS

Claim 1. (Previously Presented) A viscosity index improver, which comprises a oil soluble copolymer (A) having a weight-average molecular weight of 3,000 - 500,000 and comprising units of 5-90% by weight of a monomer (a) represented by the general formula:



wherein R^1 is H or CH_3 , and R is a branched alkyl group containing 20-24 carbon atoms, free from any polymethylene group containing more than 16 carbon atoms; units of 5-90% by weight of at least one monomer (b) selected from the group consisting of (b1) alkyl acrylates and methacrylates containing 12-17 carbon atoms in the alkyl group and (b2) straight-chain alkyl acrylates and methacrylates containing 18 carbon atoms in the alkyl group; and units of 5-30% by weight of (c) an unsaturated monomer having at least one group selected from hydroxyl and carboxyl groups.

Claim 2. (Previously Presented) The improver of Claim 1, wherein the branched alkyl group R is represented by the general formula:



wherein p is 0 or an integer of 1-15, and R' and R'' are independently selected from the group consisting of straight-chain alkyl groups containing 1-16 carbon atoms and branched alkyl groups containing 3-18 carbon atoms.

Claim 3. (Original) The improver of Claim 2, wherein R' and R" are the same or different straight-chain alkyl groups containing 6-18 carbon atoms.

Claim 4. (Original) The improver of Claim 2, wherein p in the general formula (2) is 0 or 1.

Claim 5. (Canceled)

Claim 6. (Canceled)

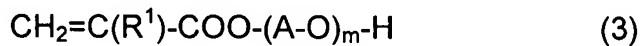
Claim 7. (Original) The improver of Claim 1, wherein said copolymer (A) further contains units of up to 15% by weight of at least one monomer selected from the group consisting of (d) other alkyl acrylates and methacrylates, (e) unsaturated hydrocarbons containing 2-20 carbon atoms, (f) vinyl ketones, (g) epoxy-containing unsaturated monomers, (h) halogen-containing unsaturated monomers, (i) alkyl alkenyl ethers, (j) alkenyl carboxylates and (k) other nitrogen-containing unsaturated monomers.

Claim 8. (Original) The improver of Claim 1, wherein said monomer (a) is at least one selected from the group consisting of 2-octyl-dodecyl methacrylate, 2-decyltetradecyl methacrylate, 2-octyldodecyl acrylate and 2-decyltetradecyl acrylate.

Claim 9. (Previously Presented) The improver of Claim 1, wherein said monomer (c) is at least one selected from the group consisting of hydroxyl-containing monomers (c1) and carboxyl-containing monomers (c3).

Claim 10. (Original) The improver of Claim 9, wherein said monomer (c1) is at least one monomer selected from the group consisting of (c11) hydroxyl-containing acrylic monomers, (c12) alkenols containing 2-12 carbon atoms, (c13) alkenediols containing 4-12 carbon atoms, (c14) hydroxyl-containing alkenyl ethers containing 3-12 carbon atoms in the alkenyl group, (c15) hydroxyl-containing aromatic unsaturated monomers, and (c16) oxyalkylene ethers of (c11)-(c15).

Claim 11. (Original) The improver of Claim 10, wherein said monomer (c11) is at least one monomer selected from the group consisting of (c111) acrylates and methacrylates represented by the general formula:



wherein R¹ is H or CH₃, A is an alkylene group containing 2-4 carbon atoms, and m is an integer of 1-20, and (c112) acrylates and methacrylates of a polyhydric alcohol having 3-8 hydroxyl groups.

Claim 12. (Original) The improver of Claim 11, wherein m in the general formula (3) is 1.

Claim 13. (Canceled)

Claim 14. (Original) The improver of Claim 9, wherein said monomer (c3) is at least one monomer selected from the group consisting of (c31) unsaturated monocarboxylic acids, (c32) unsaturated dicarboxylic acids and (c33) mono-alkyl ester of (c32) containing 1-8 carbon atoms in the alkyl group.

Claim 15. (Original) The improver of Claim 1, wherein said polymer (A) comprises 20-70% by weight of units of (a), 20-70% by weight of units of (b) and 10-30% by weight of units of (c).

Claim 16. (Original) The improver of Claim 15, wherein said copolymer (A) further contains units of up to 10% by weight of an alkyl acrylate or methacrylate (d1) containing 1-4 carbon atoms in the alkyl group.

Claim 17. (Original) A viscosity index improver concentrate, which comprises 20-90% by weight of an improver according to Claim 1 and 10-80% by weight of a diluent.

Claim 18. (Original) A lube oil composition, which comprises a major amount of a base oil and 0.01-45% by weight of an improver according to Claim 1.

Claim 19. (Original) The composition of Claim 18, wherein the base oil has a kinematic viscosity of 1 - 18 mm²/s at 100°C and a viscosity index of at least 60.

Claim 20. (Original) The composition of Claim 18, wherein the base oil has a viscosity index of at least 110.

Claim 21. (Previously Presented) The composition of Claim 18, wherein the lube oil is selected from the group consisting of gear oils, transmission fluids, traction oils, hydraulic oils and engine oils.

Claim 22. (Previously Presented) The improver of Claim 1, wherein the copolymer (A) has a solubility parameter of from 9.4, exclusive, to 9.8, inclusive.

Claim 23. (Previously Presented) The improver of Claim 1, wherein the copolymer (A) has a solubility parameter of 9.6.